



THE NORTHWESTERN UNIVERSITY

Reviewing Stand

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What Do Science and Philosophy Mean to Your Life?

A radio discussion over WGN and the Mutual Broadcasting System

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What Do Science and Philosophy Mean to Your Life?

MR. BUCHANAN: What do science and philosophy mean to your life?

MR. DEBYE: Mr. Buchanan, as far as I am concerned, I must say that, apart from frequent interruptions, science is my life. Now, as far as other people are concerned, I would think that even if you don't consider all the gadgets given to you, there is a lot which science still can do.

MR. SCHILPP: From my viewpoint, life might be made comfortable by technology without philosophy, but mankind would more nearly just exist than self-consciously and self-critically live.

MR. LEYS: As I see it, if you are scientific, you systematically test your beliefs by factual evidence. If you are a philosopher, you try to give reasonable answers to the questions that are not answered by factual evidence alone.

* * * *

True Importance of Fields

MR. BUCHANAN: Many of us think of the scientist as a rather strange person surrounded by test tubes, Bunsen burners, and the eerie equipment which we see in horror movies. We may think of the philosopher as one ensconced in an ivory tower—so-called—apart from the troubles and worries of the everyday world.

Can these conceptions be true, or should we stop a moment and ask what the scientist and the philosopher and their work mean to us?

Now, Mr. Debye, you seem to dismiss very lightly the gadgets, as you call them, which science has given us. Are they totally unimportant?

MR. DEBYE: Oh, no! They are very important. But in my feeling they represent only half the importance of science. There is also something which you could call moral happiness,

and I think science can contribute very much to that.

MR. BUCHANAN: You, Mr. Schilpp, use this phrase, "self-consciously and self-critically live." What do those fancy words mean to a person like me?

MR. SCHILPP: That was just one phrase which I have extracted from the total meaning of philosophy. To me, philosophy is serious, comprehensive, and systematic reflective thinking about experience.

Examine Your Life

Now, the cat, purring in sheer enjoyment, curled up near the fireplace, may give every appearance of happiness and satisfaction, and I dare say that some human beings exist on a level not far removed from that. But one of the major factors which distinguishes the human being from other animals is precisely his ability to live his life self-consciously, self-critically—to act, yes; but, more than that, to *know* that he is acting! And even more than that, to view his own actions critically and pass judgment upon them. As Socrates put it 25 centuries ago: "The unexamined life is not worth living."

MR. BUCHANAN: Then, Mr. Leys, you speak of answers that we may extract from both science and philosophy. Do you imply that science and philosophy have the answers to all our questions?

MR. LEYS: Oh no! If we look into the great books of philosophy we certainly find some answers that we would not think of ourselves, and every time we turn to an expert or specialist today for advice we get some of the answers of science. But both philosophy and science are inquiries. I think this is probably recognized more in the case of science than in the case of philosophy.

I remember that Mencken once said that philosophy is "the theory that it is a waste of time to hunt for facts..." Well, the philosopher doesn't hunt for facts so much. He hunts for your standards. And, in one sense, every man has to be his own philosopher because he is trying to clarify his own standards.

MR. BUCHANAN: I have mentioned some of the popular conceptions held about the scientist and the philosopher. It seems to me we now have the expert conceptions. Is there a difference, Mr. Debye, between what the man on the street thinks of science and what the man engaged in science himself thinks about it?

'Always Seeking'

MR. DEBYE: I think the man on the street thinks science has a definite answer. And a scientist is always aware that his answer may be changed by facts. He is always seeking more. What I know now tells me that I can predict such and such a thing, but maybe I am going to know more tomorrow, and then I predict differently.

MR. LEYS: Isn't it true, Mr. Debye, that there is a very common conception of science as a set of answers? Doesn't that account for the fact that Anatole France, for instance, said, "The worst of science is, it stops your thinking."

MR. DEBYE: Poor Anatole France. He did not know what he was saying.

MR. SCHILPP: If he didn't know what he was saying, what about the definition, Mr. Debye, that "a scientist is a man who knows more and more about less and less, until he knows everything about nothing."

MR. DEBYE: You know how those exaggerations grow!

MR. SCHILPP: Of course, I might add that the definition of the philosopher is not very much better: "A philosopher is a man who knows less and less about more and more, until he knows nothing about everything."

MR. DEBYE: I was too polite to mention that!

MR. SCHILPP: That was the reason I picked it up myself, you see.

MR. BUCHANAN: I would like to know a little more about philosophy as you define it, Mr. Schilpp. For instance, you mention the general fact that we must reason about life or it isn't worth living, quoting Socrates. What about the popular phrase, "Ignorance is bliss"? It seems to me a lot of people are quite happy because they *don't* know some of the facts.

'Ignorance Is Bliss?'

MR. SCHILPP: Of course we must finish your phrase by saying that "where ignorance is bliss, it is folly to be wise." That is the very reason, of course, I picked on the purring cat in front of the fireplace, because it seems to be very blissful and it is undoubtedly quite ignorant. I suppose John Stuart Mill put the question correctly when he asked, "Which would you rather be, a hog satisfied, or a man dissatisfied?" I do not think that bliss is the only thing that a man may desire. He may wish to know what kind of a life he is living and what kind of a life he ought to be living.

MR. LEYS: Isn't it possible in philosophy to make yourself blissful in a very clever way? It seems to me that I recall one of the English philosophers saying, "Metaphysics—or philosophy—is the finding of bad reasons for what we believe on instinct."

MR. SCHILPP: I know that was Bradley's assertion. He certainly was an outstanding philosopher, and therefore he should have known. But, Mr. Leys, you remember that he goes right on in the same book which begins with that remark and philosophizes—in fact, metaphysicizes for the next 450 pages—apparently finding what he thought were good reasons for what he did not evidently believe on instinct, but what was something to which he came on mature reflection.

MR. LEYS: Bradley was in the end one of the most skeptical philosophers. It seems to me he finally decided that the only true proposition he could be certain of was, "This is this." Is the philosopher getting more and more skeptical as he tries to reason out his beliefs?

MR. SCHILPP: I think that is a very good question, Mr. Leys, because I think we need to recognize that from the standpoint of the man on the street philosophy's critical attitude is usually interpreted as being a skeptical attitude. I think we ought to distinguish rather carefully between those two positions.

Skeptical Philosophers

The philosopher, if he is going to be a philosopher, that is to say, if he is going to live self-consciously and self-critically, or to use Socrates' phrase again, "to live the examined life," then he must be critical. He cannot accept things simply as they happen to appear to him at the moment. He cannot read, for example, the newspaper and simply take everything he reads for granted.

He must constantly ask questions. And he becomes a person who asks questions of the scientist, for example. He not only asks for facts constantly, but he wants to find the grounds for those facts, the ultimate basis for scientific endeavor, and sometimes even becomes critical of scientific matter. This view, however, I think the better scientists always welcome.

MR. DEBYE: Yes, you're right.

MR. SCHILPP: But he does the same thing, of course, on the level of everyday life.

MR. BUCHANAN: I don't believe that such thinking is much different from what Mr. Debye has described in science. You, too, are looking for the facts, aren't you, Mr. Debye?

MR. DEBYE: We are looking for the facts, and then from these facts we make generalizations. With the help

of those generalizations we make a prophecy of how things should be. Then we stop and go to the experiment again and ask, "Well now, experiment, what do you tell us? Is what we thought correct, or is it not?" And then we go at it again.

MR. BUCHANAN: However, if the answer does not agree with your original supposition, are you as a scientist willing to accept it?

MR. DEBYE: Every moment we are willing to change our views, if nature tells us to.

MR. BUCHANAN: Is that true of philosophy, Mr. Schilpp? Would you change your views, if you find facts and thinking which might be evidence to the contrary?

MR. SCHILPP: If we would not, I would say we are unworthy of either the name of scientist or philosopher.

'Rational Reflection'

MR. LEYS: It seems to me we must recognize that both science and philosophy are names for a persistent kind of thinking that is distinguished, first, by the willingness to change one's mind on reflection, and, second, by the quest for general principles. Very often science is spoken of as a search for facts, and we think of little, particular facts. Actually the scientist is looking for very general descriptions of nature.

MR. DEBYE: There you are very right. That is the thing he wants. He does not want to have a ledger in which he can look up facts, if he cannot combine the facts and see reasons behind them. His reasoning may not be quite right, but a certain part of the truth may be in it, so he goes on to improve his laws. And, even if we talk about laws, we don't mean invariable laws, we mean the laws which can be complemented by other things and changed.

MR. SCHILPP: In this process, then, of generalization and universalization, science and philosophy are using some-

what the same methods. Both of them are concerned with generalized and universalized propositions, and both of them are working, not only on the basis of factual evidence, but also on the basis of rational reflection.

MR. LEYS: I think that last phrase of yours, *rational reflection*, Mr. Schilpp, is very important. We have to examine the facts that are beyond our skin surface, and we have to examine our own ideas and our own intellectual tools and attitudes. For example, the scientist may ask such a question as, "What do I mean when I use the word, *cause*?" This is a philosophical question which can't be answered just by accumulating facts. We have to decide how we are going to use our language. We are dealing with our own standards of discourse.

Or he may ask a very common question, "Should I work hard or take it easy?" Now, this is not a factual question. This is a question which can be answered impulsively or can be answered in a philosophical way by reflecting on one's standards.

Causality

MR. SCHILPP: That is to say, Mr. Leys, if I understand you right, you are calling attention now to the difference between the emphasis on *factuality* or *isness* on the part of science, and the emphasis on *oughtness* very often in many areas of philosophy. For example, the problems of ethics.

Of course, that is a consideration which makes a fundamental distinction but perhaps it is not as far reaching as far as dividing the fields is concerned as we first imagine. Your illustration about causality itself makes that clear, because in one sense of the word causality is something which we say *ought* to be the case, not just simply *is* the case. And then we go out to the world and begin to test it on the basis of factual evidence. Wouldn't you agree with that, Mr. Debye?

MR. DEBYE: Yes, yes. There has been so much publication about this caus-

ality. As far as the scientist is concerned, he has two things and connects them with each other, and for the moment he thinks one is the cause of the other. Maybe he is not quite right. He finds something deeper some day.

MR. BUCHANAN: Is science concerned only with the facts, Mr. Debye? You may experiment and find methods of destruction which threaten my life. Aren't you concerned with the way we use your facts?

MR. DEBYE: There we come on the field of social science, you know, and that is very bad. I think social science is bad because social scientists don't experiment enough.

Now I have always found that if I say, "Social scientists should do experiments," you will answer, "We cannot do that very well; we cannot experiment with mankind."

But then I have always said, "Look at astronomers. They cannot get to the sun, they cannot get to the stars; and still they make conclusions from experiments on samples which are taken on the surface of the globe."

MR. SCHILPP: Yes, but, Mr. Debye, you say they cannot get to the stars. We can very well get at man, but experimenting with him is something altogether different. I wonder whether your analogy really works.

Using Samples

MR. DEBYE: The question is whether you have to experiment with man himself to find out how man will react. That is not quite certain. You might find out how man is going to react in some cases by doing an experiment with a mouse.

MR. SCHILPP: Are you trying to say that there is no difference between a man and a mouse?

MR. DEBYE: Oh no, no! I am not making a generalization of that kind. I say that in some cases it might be possible, you see, to do experiments on small samples other than men and still draw the right conclusions.

MR. SCHILPP: Wouldn't you say, Mr. Debye, that some human beings might be better compared to rats than to mice?

MR. DEBYE: I do not want to pass judgment. [Laughter]

MR. LEYS: The recognition by Mr. Debye of the special field of the social sciences is quite significant, I think. We recognize that in the application of scientific discoveries we run into a problem which is not solved in the laboratory where the discovery was first made. This calls attention to the increasing need for a division of labor and collaboration between various types of specialists. And this calls for statesmanship and for, I should say, philosophy to assure that kind of cooperation.

MR. DEBYE: I agree absolutely.

MR. BUCHANAN: But still I insist on the answer to my question. Should the scientist be at all concerned with the fact that he might destroy this world in which he is experimenting?

MR. DEBYE: Yes, but it will depend on the person. He may be very much concerned or very little concerned. You see, a man may be so wrapped up in finding new things that he forgets about everything else. He may be the best man for finding new things.

Understanding Scientist, Philosopher

MR. LEYS: Couldn't we make this distinction: the professions that are known as the sciences should be concerned with the applications of science and the political problems that result. But every research scientist need not be concerned.

MR. DEBYE: That's right.

MR. SCHILPP: In other words, you admit that, as a profession, science also has a social and a moral obligation, even though some individual scientist may not be very much aware of that.

MR. DEBYE: Definitely.

MR. LEYS: And this, I think, brings us to another question—the obligation

of the scientist and the philosopher to make their learning intelligible to people who are not experts.

It would be possible for Mr. Debye, who has done so much work in the field of chemistry and the borderlands of physics, to start talking in a way that would take me ten years to understand—ten years of hard study. Similarly, there are philosophers who could start talking in such a way that we would have to study an infinite period of time in order to understand them.

MR. SCHILPP: Maybe they don't understand themselves!

MR. LEYS: Let's pass that!

The problem I am getting at is the difficulty in an age of specialized division of labor for the specialist to make himself intelligible to people who have other specialties.

Common Sense

MR. DEBYE: You are making a very good point. And I have always maintained, if a thing is true, then it can also be explained to the man on the street.

MR. BUCHANAN: I wonder about that. I am sure that the atomic bomb is true. It is here, and the methods by which it is finally exploded are incontrovertible fact. But I wouldn't understand it, even if all the facts were available.

MR. DEBYE: I am not certain of that. I think maybe you have not yet met the right man to explain it to you.

MR. SCHILPP: Would you say, Mr. Debye, that Einstein's theory of relativity can be made clear and understandable to the man on the street?

MR. DEBYE: I don't mean the mathematical part of it, but what it means, the fundamental idea, can be explained. Relativity is just common sense, and common sense is intelligible to the man on the street.

MR. SCHILPP: Of course that reminds me of a statement of my old English professor who often said, "Common

sense is the most uncommon thing in the world." What do you have to say to that, Mr. Leys?

MR. LEYS: I think common sense is very common. I have no doubts on this score. We know that half the high school graduates who do not go to college could reach the top in science as far as ability is concerned.

I think there is an obligation which has not always been fulfilled by the scientists and the philosophers — to state what it is that is particularly important and do so in clear language. I recall that Father Divine once said, "The trouble with the world's metaphysicians is that they don't *tangibilite* enough." [Laughter]

MR. SCHILPP: Of course, he had to invent a new word in order to make clear what he was after. But perhaps he was after something really significant.

What would you say, Mr. Debye, to Bowne's famous remark to the effect that "philosophy may not bake any bread but it makes the bread you eat taste much sweeter."

Your Philosophy

MR. DEBYE: Yes, if you are thinking of personal philosophy, of the man himself making up his own philosophy, then I think you are right. If you are thinking of a man who is going to sit down and read philosophy books, then I would disagree.

MR. SCHILPP: Wouldn't you say that, if you read some philosophy books, it might react favorably upon what you philosophically think and therefore still be true that it makes the bread you eat taste much sweeter?

MR. DEBYE: Yes, but only in using these two steps: first reading, and then thinking.

MR. SCHILPP: And then reflecting. That's right, quite right.

MR. BUCHANAN: You mean, then, that I must know philosophy in order to enjoy eating a loaf of bread, Mr. Schilpp?

MR. SCHILPP: You might enjoy eating your loaf of bread a great deal more. I do mean precisely that.

MR. LEYS: I would amend that statement—or introduce an amendment to that statement. I think that there are many people who enjoy eating bread without any philosophy. But in the kind of world in which we live, eating bread becomes a very complex matter. It involves conflicts which we talk about a great deal—mental conflicts, that is. Our various activities are in conflict. Under those circumstances philosophy may be necessary to the enjoyment of bread.

Blind Men?

MR. SCHILPP: In other words, we might use the old gag which defines a philosopher as a blind man in a dark cellar who is looking for a black cat which isn't there. Lots of people seem to think that does away with philosophy. But I should like to point out that the remark is a very significant statement. It isn't a joking remark at all.

By saying it is a blind man, the statement recognizes the general blindness with which humanity as a whole is stricken and in which the philosopher to some extent must share because he is human, too. And it recognizes the fact that our modern world is quite a dark cellar. In fact, the darkness sometimes becomes so thick that you can't see through it at all. And after all, why think you have knocked the whole thing out by saying that the philosopher is looking for something that isn't there? Why think that really gives the philosopher the final *coup de grace*? After all, in a world which is so much of a dark cellar it is very important for some people to be looking for things that aren't there—for example, peace and prosperity and plenty.

MR. LEYS: I think the looking is the important part of your statement. The reason that many persons are disappointed when they try to read philosophy books and have difficulty under-

standing science is that they don't come to the reading and to the listening with questions. If a person has a question and reads purposefully, science and philosophy cease to be non-sense.

MR. BUCHANAN: I gather you think, Mr. Debye, that it is the thinking process itself in science that is important.

MR. DEBYE: Yes.

Too Little Thought

MR. BUCHANAN: Can that process be applied by myself, by anyone else who is not a scientist?

MR. DEBYE: Yes. After all, anything which we find in chemistry or in physics or in science is common sense. It is just common sense and nothing else, and *you* certainly have common sense.

MR. SCHILPP: By common sense, of course, you mean good sense?

MR. DEBYE: Yes.

MR. SCHILPP: Rather than common sense. That, of course, was the point I was making in the quotation from the English professor a while ago. He was saying that good sense is not really very common. When you say common sense you mean good sense—intelligence—which again is reflective thinking instead of acceptance of things on their surface appearances.

MR. BUCHANAN: Again we come back to the meaning of thinking. Is that, then, the core of the whole problem, do you think, Mr. Leys?

MR. LEYS: I certainly do. I agree that philosophy and science are men thinking, and the trouble is that men don't think enough.

MR. DEBYE: That's right.

MR. SCHILPP: I agree with that, too.

MR. BUCHANAN: We all seem to be agreed on that, and from that perhaps we can find an answer to our question . . . *What Do Science And Philosophy Mean to Your Life?* Perhaps that answer lies in the suggestion that we apply the thinking process of both science and philosophy to our everyday actions.

Purposeful Thinking

If we were to adopt this critical but unprejudiced attitude toward any problem which faces us, we might take the first step toward the solution of these problems.

It seems to me that neither science nor philosophy can offer a panacea for our ills. I am sure we agree to that, but we can learn from the approach of the scientist and of the philosopher a method of improving ourselves and our world.

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Next week the Reviewing Stand celebrates the first holiday of the summer with a different sort of discussion. The subject is *Why Vacations?* and I think you'll find it very stimulating.

Our guests will be Miss Helen Ross, administrative director, Institute for Psychoanalysis; Willard E. Parker, industrial psychologist and personnel consultant; and Albert C. Van Dusen, associate professor of psychology and director of the summer session at Northwestern University.

We invite you to listen next week for . . . *Why Vacations?*

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Suggested Readings



Compiled by Laura R. Joost, Assistant,
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AYRES, C. E. *Science, The False Messiah*. Indianapolis, The Bobbs-Merrill 1927.

BRIDGMAN, PERCY W. *The Intelligent Individual and Society*. New York, Macmillan, 1938.

COHEN, I. BERNARD *Science, Servant of Man*. Boston, Little, Brown, 1948.

CONANT, JAMES B. *On Understanding Science, An Historical Approach*. New Haven, Yale University Press, 1947.

For pupils and teachers of the sciences, a study showing the relationship between science and society.

DAMPIER, WILLIAM C. *History of Science and Its Relations with Philosophy and Religion*. 4th ed. rev. and enl. New York, Macmillan, 1949.

HUXLEY, ALDOUS *Brave New World*. New York, Harper, 1932.

HUXLEY, ALDOUS *Science, Liberty and Peace*. New York, Harper, 1946.

Sociological treatment of the problems brought on by the atomic bomb.

JEANS, SIR JAMES H. *Physics and Philosophy*. New York, Macmillan, 1945.

KOESTLER, ARTHUR *Insight and Outlook; An Inquiry Into the Common Foundations of Science, Art and Social Ethics*. New York, Macmillan, 1949.

Attempts to show all of man's creative activities as part of a common pattern.

LANGDON-DAVIES, JOHN *The New Age of Faith*. New York, Viking, 1925.

LANGER, SUSAN K. *Philosophy in a New Key*. Cambridge, Mass., Harvard University Press, 1942. (Pelican Books, 1948)

LEYS, WAYNE A. R. "What is the Matter with Social Experimentalism?" Chap. 20. *Ethics and Social Policy*. New York, Prentice-Hall, 1941.

Living Philosophies, A Series of Intimate Credo's. New York, Simon and Schuster, 1931. (Tower, 1941)

MURPHY, ARTHUR E. *The Uses of Reason*. New York, Macmillan, 1943.

RUSSELL, BERTRAND R. *History of Western Philosophy*. New York, Simon and Schuster, 1945.

Addressed primarily to the layman to acquaint him with the philosophy of the earliest times and to that of the present day.

SCHILPP, PAUL A. "The Task of Philosophy in an Age of Crisis." Chapt. 28. *Learning and World Peace*. New York, Bryson, Finklestein and MacIver, Harbrook, 1948.

SCHNEIDER, HERBERT WALLACE *History of American Philosophy*. New York, Columbia University Press, 1947.

A scholarly and comprehensive history of American philosophy.

WHITEHEAD, ALFRED NORTH *Essays in Science and Philosophy*. New York, Philosophical Library, 1947.

Essays arranged in four parts: "Personal," "Philosophy," "Education," and "Science."

The Personalist 30:5-15, Winter '49. "The Role of Philosophy in World Understanding." R. T. FLEWELLING, ed.

Suggests that the real struggle between East and West is between two conflicting ideologies and that peace can come only through an annihilating war, complete destruction, or the discovery and dominance of a mediating philosophy which will evolve from the truths and values to be found in the contrasting ideologies.

The Personalist 29:377-83, Oct., '48 "Our Flight From Metaphysics." M. W. HESS.

Modern philosophy has revolted against reason and has taken up in its stead the Freudian doctrine of the subconscious—a doctrine denying man's responsibilities for his acts.

Philosophy 24:56-68, Jan. '49. "A Challenge to Philosophers in the Atomic Age." PAUL ARTHUR SCHILPP.

Urges philosophers to (1) support the supremacy of reason as a method of communication, cooperation and agreement; (2) accept the fact of the basic unity of all mankind; and (3) insist upon man's fundamental dignity as a human being.

Philosophical Review 57:307-29, July, '48. "What Contribution Can Philosophy Make to World Understanding?" C. KRUSE.

Address before the Second Inter-American Congress of Philosophy and the forty-fourth annual meeting of the Eastern Division of the American Philosophical Association at Columbia University, New York, N.Y., Dec. 30, 1947.

Philosophy of Science 15:83-117, April, '48. "A Symposium: What the Natural Scientist Needs from the Social Scientist."

Papers directed toward two problems (1) the needs of the physical sciences which the social sciences should fulfill, and (2) the capacity of contemporary social science to satisfy these needs.

Science 109:477-482, May 13, '49. "Science and Humanity." DETLEV W. BRONK.

Discussion showing (1) the new status of science—public support, need for scientists, spread of science, and the social responsibility of the scientist—, (2) the place of basic research, (3) the international scope of science, and (4) that science can build a better world.

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